

AMENDMENTS TO THE CLAIMS

1. (Previously presented) A method of enhancing the immune response to an immunogen in a mammal, said method comprising providing to said mammal

(i) said immunogen; Flt3L or a biologically active fragment thereof; and MIP-1 α , MIP-3 α , or a biologically active fragment thereof; or

(ii) at least one nucleic acid molecule encoding at least one of (a) said immunogen; (b) Flt3L or a biologically active fragment thereof; and (c) MIP-1 α , MIP-3 α , or a biologically active fragment thereof; and each polypeptide of (a), (b), or (c) not encoded by said at least one nucleic acid molecule.

2-4. (Canceled).

5. (Previously presented) The method of claim 1, wherein said Flt3L and said MIP-1 α or MIP-3 α are provided in a therapeutically effective amount to augment a T cell response in said mammal, wherein said T cell response is a CD4⁺ T cell response, a CD8⁺ T cell response, or both.

6. (Canceled).

7. (Previously presented) The method of claim 5, wherein said T cell response is augmented by at least 20% relative to an untreated control.

8. (Previously presented) The method of claim 7, wherein said T cell response is augmented by at least 40% relative to an untreated control.

9. (Previously presented) The method of claim 1, wherein said Flt3L, said MIP-1 α , or said MIP-3 α polypeptide or biologically active fragment thereof is a human, mouse, rat, or monkey polypeptide.

10-11. (Canceled).

12. (Previously presented) The method of claim 1, wherein said Flt3L, said MIP-1 α , or said MIP-3 α polypeptide is a full length polypeptide.

13-14. (Canceled).

15. (Previously presented) The method of claim 1 further comprising a step of administering an additional adjuvant to said mammal.

16. (Original) The method of claim 15, wherein said adjuvant is GM-CSF or a biologically active fragment thereof.

17. (Previously presented) The method of claim 1, wherein at least two immunogens are provided to said mammal.

18. (Canceled).

19. (Previously presented) The method of claim 1, wherein said mammal is a human.

20-28. (Cancelled)

29. (Withdrawn) The method of claim 1, wherein said method is used to treat or prevent autoimmune disease, tissue rejection, or allergic reaction.

30. (Withdrawn) The method of claim 29 further comprising administering a second therapeutic for treatment of said autoimmune disease, tissue rejection, or allergic reaction.

31. (Withdrawn) The method of claim 30, wherein said second therapeutic is administered within one week of said providing.

32. (Withdrawn) The method of claim 29, wherein said immunogen is substantially identical to an antigen associated with said autoimmune disease, tissue rejection, or allergic reaction.

33. (Withdrawn) The method of claim 1, wherein said method is used to prevent or treat cancer.

34. (Withdrawn) The method of claim 33 further comprising administering a second anti-cancer therapeutic.

35. (Withdrawn) The method of claim 34, wherein said second anti-cancer therapeutic is administered within one week of said providing.

36. (Withdrawn) The method of claim 33, wherein said cancer is selected from the group consisting of melanoma, breast cancer, pancreatic cancer, colon cancer, lung cancer, glioma, hepatocellular cancer, endometrial cancer, gastric cancer, intestinal cancer, renal cancer, prostate cancer, thyroid cancer, ovarian cancer, testicular cancer, liver cancer, head and neck cancer, colorectal cancer, esophagus cancer, stomach cancer, eye cancer, bladder cancer, glioblastoma, and metastatic carcinoma.

37. (Withdrawn) The method of claim 33, wherein said immunogen is substantially identical to an antigen associated with said cancer.

38. (Withdrawn) The method of claim 37, wherein said antigen is selected from the group consisting of Melan-A, tyrosinase, p97, β -HCG, GalNAc, MAGE-1, MAGE-2, MAGE-3, MAGE-4, MAGE-12, MART-1, MUC1, MUC2, MUC3, MUC4, MUC18, CEA, DDC, melanoma antigen gp75, Hker 8, high molecular weight melanoma antigen, K19, Tyr1 and Tyr2, members of the pMel 17 gene family, c-Met, PSA, PSM, α -fetoprotein, thyroperoxidase, gp1000, NY-ESO-1, telomerase, C25 colon carcinoma, and p53.

39. (Canceled).

40. (Previously presented) The method of claim 1, wherein said providing is performed using a single formulation.

41. (Previously presented) The method of claim 1, wherein said providing is performed using at least two separate formulations.

42. (Previously presented) The method of claim 41, wherein said formulations are provided by the same route of administration.

43. (Previously presented) The method of claim 1, wherein said providing is by injection intradermally, intramuscularly, subcutaneously, or intravenously.

44. (Withdrawn) The method of claim 1, wherein at least one of said nucleic acid molecules is an expression vector comprising a regulatory element operably linked to a polynucleotide sequence encoding any of the polypeptides of (a)-(c).

45. (Canceled).

46. (Withdrawn) The method of claim 44, wherein said expression vector is a viral, a bacterial, or a plasmid vector.

47. (Withdrawn) The method of claim 46, wherein said viral vector is selected from the group consisting of an adenovirus, a poxvirus, and a lentivirus.

48. (Withdrawn) The method of claim 44, wherein at least 0.2 ug of expression vector is provided.

49. (Withdrawn) The method of claim 1 further comprising administering a booster shot to said mammal.

50. (Withdrawn) The method of claim 49, wherein said booster shot is administered within a year of said providing.

51. (Withdrawn) The method of claim 49, wherein said booster shot comprises one or more immunogens.

52. (Withdrawn) The method of claim 49, wherein said booster shot comprises MIP-1 α , Flt3L, MIP-3 α , or a combination thereof in a therapeutically effective amount.

53. (Withdrawn) The method of claim 49, wherein said booster shot comprises MIP-1 α and Flt3L; MIP-3 α and Flt3L; or MIP-3 α , MIP-1 α , and Flt3L.

54-55. (Canceled).

56. (Withdrawn) The method of claim 49, wherein said booster shot comprises a recombinant vector comprising a polynucleotide sequence operably linked to regulatory elements encoding said immunogen.

57. (Withdrawn) The method of claim 56, wherein said recombinant vector is a live recombinant vector selected from a group consisting of an adenovirus, a lentivirus, or a poxvirus.

58. (Withdrawn) The method of claim 57, wherein said poxvirus is modified vaccinia virus Ankara, or fowl pox.

59. (Withdrawn) The method of claim 56, wherein at least 0.2 ug of said recombinant vector is provided.

60. (Withdrawn) The method of claim 57, wherein at least 10^5 pfu of said live recombinant vector is provided.

61. (Withdrawn) The method of claim 49, wherein said administering of said booster shot results in at least a 2-fold increase in the T cell response in said mammal as compared to the T cell response in a control mammal not provided with said booster shot, wherein said T cell response is a CD4⁺ T cell response, a CD8⁺ T cell response, or both.

62. (Withdrawn) The method of claim 49, wherein said providing and said administering of said booster shot are by the same route of administration.

63. (Canceled).

64. (Withdrawn) The method of claim 49, wherein said booster shot is formulated for injection intradermally, intramuscularly, subcutaneously, or intravenously.